



Approved for use through 07/31/2006. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/092,699
	Filing Date	March 7, 2002
	First Named Inventor	Steven P. Spagnuolo
	Art Unit	3616
	Examiner Name	David R. Dunn
	Attorney Docket Number	KOY02 001
Total Number of Pages in This Submission		

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance communication to Technology Center (TC)
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input checked="" type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Terminal Disclaimer	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Request for Refund	Statement Under 37 CFR 3.73(b); Copies of Assignments and Change of Name Documents; Return Postcard
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Certified Copy of Priority Document(s)	Remarks	
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

RECEIVED  
MAR 29 2004  
GROUP 3600

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	John M. Johnson
Signature	
Date	March 16, 2004

CERTIFICATE OF TRANSMISSION/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.	
Typed or printed name	Sarah A. Marciano
Signature	
Date	March 16, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Form PTO-1595  
(Rev. 10/02)

OMB No. 0651-0027 (exp. 6/30/2005)

Tab settings ⇌ ⇌ ⇌ ▼ ▼ ▼ ▼ ▼ ▼ ▼

RECORDATION FORM COVER SHEET  
**PATENTS ONLY**

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Northrop Grumman Space & Mission Systems Corp.  
(formerly known as TRW, Inc.)

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: 02/06/2004

2. Name and address of receiving party(ies)

Name: TRW Automotive U.S. LLC

Internal Address: \_\_\_\_\_ MAR 29 2004

Street Address: 12025 Tech Center Drive

City: Livonia State: MI Zip: 48150

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s) \_\_\_\_\_  
2003/0168826

B. Patent No.(s) 5,709,283;  
6,286,382; 6,422,779

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: John M. Johnson

Internal Address: Carter Ledyard & Milburn LLP

Street Address: 2 Wall Street

City: New York State: NY Zip: 10005

6. Total number of applications and patents involved: **4**

7. Total fee (37 CFR 3.41).....\$ 160.00

- ☒ Enclosed  
☐ Authorized to be charged to deposit account

8. Deposit account number:

9. Signature.

John M. Johnson Reg. No. 33,334  
Name of Person Signing

Signature

March 9, 2004  
Date

Total number of pages including cover sheet, attachments, and documents: **2**

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

**CONFIRMATORY ASSIGNMENT OF PATENTS**

WHEREAS, Northrop Grumman Space & Mission Systems Corp. (formerly known as TRW Inc.), an Ohio corporation ("Assignor") desires to confirm the assignment of the following U.S. patent application, U.S. patents and their foreign equivalents (collectively referred to as "Patents") to TRW Automotive U.S. LLC, a Delaware limited liability company ("Assignee") effective January 1, 2003:

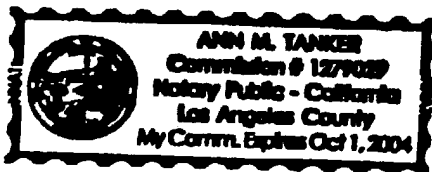
U.S. Patent No. 5,709,283  
U.S. Patent No. 6,286,382B1  
U.S. Patent No. 6,422,779B1  
U.S. Patent Application No. 2003/0168826A1

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00), to it in hand paid by said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, said Assignor does hereby confirm that effective January 1, 2003, Assignor assigned, transferred and set over to said Assignee all its right, title and interest in, to and under said Patents and the inventions covered thereby and any divisions, reissues, continuations and extensions thereof, together with all rights and privileges granted and secured thereby, including the right to sue and recover for any past infringement, said rights to be held and enjoyed by said Assignee, for its own use and benefit and for the use and benefit of its successors, assigns or other legal representatives, to the end of the term for which said Patents are granted or reissued as fully and entirely as the same would have been held and enjoyed by said Assignor if this Assignment and sale had not been made.

AND, said Assignor hereby covenants that it had full right to convey the entire interest herein assigned.

IN TESTIMONY WHEREOF, Assignor has executed this Assignment by its proper officers thereunto duly authorized.

NORTHROP GRUMMAN SPACE & MISSION  
SYSTEMS CORP.



By: Kathleen M. Salmas  
Kathleen M. Salmas  
Secretary

STATE OF CALIFORNIA )

COUNTY OF Los Angeles )

SS

Subscribed and sworn to before me this 6<sup>th</sup> day of February, 2004.

Ann M. Tanker  
Notary Public

My Commission Expires: October, 2004

Application Serial No. \_\_\_\_\_ Attorney Docket No. K0Y01001

Nos. PATENT APPLICATION FOR: 5,709,283; 6,286,382;

6,422,779 and 2003/0168826

INVENTOR(S): \_\_\_\_\_

2003 OCT 14 PM 12:06

DATE MAILED: October 9, 2003

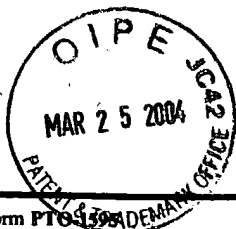
PLEASE STAMP AND CONFIRM RECEIPT IN THE U.S. PATENT OFFICE OF THE FOLLOWING:

☒ Assignment and Recordation Cover Sheet

☒ Check No. 006022 for \$160.00

OTHER \_\_\_\_\_

RECEIVED  
MAR 29 2004  
GROUP 3600



Form PTOS-100 (Rev. 10/02)  
OMB No. 0651-0027 (exp. 6/30/2005)

RECORDATION FORM COVER SHEET  
**PATENTS ONLY**

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

Tab settings

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

TRW Automotive U.S. LLC

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: 9/30/2003

2. Name and address of receiving party(ies)

Name: TRW Koyo Steering Systems Company

Internal Address: \_\_\_\_\_

Street Address: 55 Excellence Way

City: Vonore State: TN Zip: 37885

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s) \_\_\_\_\_  
2003/0168826

B. Patent No.(s) 5,709,283;  
6,286,382; 6,422,779

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: John M. Johnson, Esq.

Internal Address: Carter Ledyard & Milburn LLP

Street Address: 2 Wall Street

City: New York State: NY Zip: 10005

6. Total number of applications and patents involved: **4**

7. Total fee (37 CFR 3.41).....\$ 160.00

- ☒ Enclosed  
☐ Authorized to be charged to deposit account

8. Deposit account number:

RECEIVED

MAR 29 2004

GROUP 3600

DO NOT USE THIS SPACE

9. Signature.

John M. Johnson Reg. No. 33,334  
Name of Person Signing

Signature

October 9, 2003  
Date

Total number of pages including cover sheet, attachments, and documents: **2**

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

**ASSIGNMENT OF PATENTS**

WHEREAS, TRW Automotive U.S. LLC, a Delaware limited liability company having a place of business at 12025 Tech Center Drive, Livonia, Michigan 48150 ("Assignor"), is the exclusive owner of the following U.S. patent application, U.S. patents and their foreign equivalents (collectively referred to as "Patents"):

U.S. Patent No. 5,709,283  
U.S. Patent No. 6,286,382B1  
U.S. Patent No. 6,422,779B1  
U.S. Patent Application No. 2003/0168826A1

WHEREAS, TRW Koyo Steering Systems Company, a Tennessee general partnership having a place of business at 55 Excellence Way, Vonore, Tennessee 37885 ("Assignee"), desires to acquire the entire right, title and interest in, to and under the Patents and the inventions covered thereby;

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00), to it in hand paid by said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, said Assignor does hereby sell, assign, transfer and set over to said Assignee all its right, title and interest in, to and under said Patents and the inventions covered thereby and any divisions, reissues, continuations and extensions thereof, together with all rights and privileges granted and secured thereby, including the right to sue and recover for any past infringement, said rights to be held and enjoyed by said Assignee, for its own use and benefit and for the use and benefit of its successors, assigns or other legal representatives, to the end of the term for which said Patents are granted or reissued as fully and entirely as the same would have been held and enjoyed by said Assignor if this Assignment and sale had not been made.

AND, said Assignor hereby covenants that it has full right to convey the entire interest herein assigned.

IN TESTIMONY WHEREOF, Assignor has executed this Assignment by its proper officers thereunto duly authorized.

TRW AUTOMOTIVE U.S. LLC

By: 

David Bialosky  
Vice President and General Counsel

STATE OF MICHIGAN )

COUNTY OF Wayne )

SS

Subscribed and sworn to before me this 30 day of September, 2003.

  
Notary Public

GINGER M. EVANCWSKI  
NOTARY PUBLIC WAYNE CO., MI  
MY COMMISSION EXPIRES Nov 22, 2004

My Commission Expires: 11/23/04



Application Serial No. \_\_\_\_\_ Attorney Docket No. K0Y02 001

PATENT Nos.: 5,709,283; 6,286,382; 6,422,779

Application Nos.: 2003/0168826; PCT/US03/05604

DATE MAILED: March 16, 2004

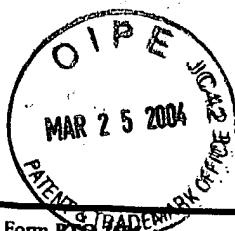
PLEASE STAMP AND CONFIRM RECEIPT IN THE U.S. PATENT OFFICE OF THE FOLLOWING:

☒ Assignment and Recordation Cover Sheet

☒ Check No. 009119 for \$ 200.00

OTHER \_\_\_\_\_

RECEIVED  
MAR 29 2004  
GROUP 3600



Form PTO-703  
(Rev. 10/02)

OMB No. 0651-0027 (exp. 6/30/2005)

Tab settings ⇌ ⇌ ⇌ ▼ ▼ ▼ ▼ ▼ ▼ ▼

# RECORDATION FORM COVER SHEET PATENTS ONLY

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Tennessee Koyo Steering Systems Company

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: 02/25/2004

2. Name and address of receiving party(ies)

Name: Koyo Steering Systems of North America, Inc.

Internal Address: \_\_\_\_\_

Street Address: 47771 Halyard Drive

City: Plymouth State: MI Zip: 48170

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s) \_\_\_\_\_  
2003/0168826; PCT/US03/05604

B. Patent No.(s) 5,709,283;  
6,286,382; 6,422,779

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: John M. Johnson

Internal Address: Carter Ledyard & Milburn LLP

Street Address: 2 Wall Street

City: New York State: NY Zip: 10005

6. Total number of applications and patents involved: 5

7. Total fee (37 CFR 3.41).....\$ 200

- ☒ Enclosed  
☐ Authorized to be charged to deposit account

8. Deposit account number:

RECEIVED

MAR 29 2004

GROUP 3600

DO NOT USE THIS SPACE

9. Signature.

John M. Johnson Reg. No. 33,334  
Name of Person Signing

[Signature]  
Signature

March 16, 2004

Date

Total number of pages including cover sheet, attachments, and documents: 2

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231



ASSIGNMENT OF PATENTS

WHEREAS, Tennessee Koyo Steering Systems Company, a Tennessee general partnership having a place of business at 55 Excellence Way, Vonore, Tennessee 37885 ("Assignor"), is the exclusive owner of the following U.S. patent applications, U.S. patents and their foreign equivalents (collectively referred to as "Patents"):

U.S. Patent No. 5,709,283  
U.S. Patent No. 6,286,382 B1  
U.S. Patent No. 6,422,779 B1  
U.S. Patent Application No. 2003/0168826A1  
PCT Patent Application No. PCT/US03/05604  
German Patent Application No. 101 07449.2

WHEREAS, Koyo Steering Systems of North America, Inc., a Delaware general partnership having a place of business at 47771 Halyard Drive, Plymouth, MI 48170 ("Assignee"), desires to acquire the entire right, title and interest in, to and under the Patents and the inventions covered thereby;

NOW THEREFORE, for and in consideration of the sum of One Dollar (\$1.00), to it in hand paid by said Assignee, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledge, said Assignor does hereby sell, assign, transfer and set over to said Assignee all its right, title and interest in, to and under said Patents and the inventions covered thereby and any divisions, reissues, continuations and extensions thereof, together with all rights to be held and enjoyed by said Assignee, for its own use and benefit and for the use and benefit of its successors, assigns or other legal representatives, to the end of the term for which said Patents are granted or reissued as fully and entirely as the same would have been held and enjoyed by said Assignor if this Assignment and sale had not been made.

AND, said Assignor hereby covenants that it has full right to convey the entire interest herein assigned.

IN TESTIMONY WHEREOF, Assignor has executed this Assignment by its proper officers thereunto duly authorized.

TENNESSEE KOYO STEERING SYSTEMS COMPANY

By: Michael D. Ervers 2/25/04  
Title: President, Tennessee Koyo Steering

STATE OF TENNESSEE )  
 ) SS  
COUNTY OF Monroe )

Subscribed and sworn to before me this 25 day of February, 2004.

Helen R. Moore  
Notary Public

My Commission Expires: 11-29-05

**Tennessee Koyo Steering Systems Co.  
Minutes of  
The Board of Representatives**

**Time and Place**

Held on October 7, 2003, at the office of Tennessee Koyo Steering Systems Co. in Vonore, TN.

**Agenda**

The agenda followed at the meeting is shown in Attachment 1.

**Representative Present**

Kiyoshi Takeda	(in person)
Yuji Doi	(in person)
Michael D. Bowers	(in person)
Akihisa Muyama	(in person)
William J. Dona	(in person)
Koji Okamatsu	(in person)

**Preliminary Proceedings**

The Chairman noted that all six representatives were present at the meeting in person. Thus a quorum was constituted in accordance with the terms of the Partnership Agreement. The Chairman then declared the meeting duly convened and called into session.

**Resolutions**

**1. Change of Company Name**

Due to September 30, 2003 ownership change to 100% Koyo Seiko companies, the new official name for the company has been changed from TRW Koyo Steering Systems Co. to Tennessee Koyo Steering Systems Co.

**2. Board of Representative**

As advised by Koyo Seiko, the two previous TRW board seats will be filled by Mr. Yuji Doi and William J. Dona. Upon motion duly made and seconded, the representatives were unanimously approved:

**RESOLVED, to accept the new representatives as proposed.**

The representatives decided the date for the next Board meeting and that it will be held at TKS, wherein the management of TKS is to present an update of its 2004 Operations Plan and a final 2004-2008 LRP to the Board in conjunction with other issues pertinent to TKS.

The proposed date is mid-June, 2004.

**Conclusion**

There being no other business, the meeting was adjourned at 5:00 p.m. on October 7, 2003.

  
Kiyoshi Takeda, Representative

  
Michael D. Bowers, Representative

Attachment: Agenda

Attachment

Record of Attendance

October 7, 2003 meeting of the Board at TKS.

Kiyoshi Takeda

Kiyoshi Takeda

Yuji Doi

Yuji Doi

Michael D. Bowers

Michael D. Bowers

Akihisa Muiyama

A. Muiyama

William J. Dona

William J. Dona

Koji Okamatsu

Koji Okamatsu

Verification of signatures

Notary for State of Tennessee  
County of Monroe

Helen R Moore 10/7/03  
Notary Public

Commission Expires 11/29/05



Application Serial No. \_\_\_\_\_

Attorney Docket No. KOY 001

PATENT APPLICATION FOR: Nos. 5,709,283; 6,286,382;  
6,422,779 and 2003/0168826;

INVENTOR(S): \_\_\_\_\_

2003 OCT 14 PM 12:06 DATE MAILED: October 9, 2003

PLEASE STAMP AND SIGN IN RECEIPT IN THE U.S. PATENT OFFICE OF THE FOLLOWING:

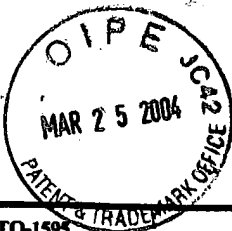
- ☒ Change of Name and Recordation Cover Sheet  
☒ Check No. 006023 for \$160.00

OTHER \_\_\_\_\_

RECEIVED

MAR 29 2004

GROUP 3600



Form PTO-1595  
(Rev. 10/02)

OMB No. 0651-0027 (exp. 6/30/2005)

RECORDATION FORM COVER SHEET  
**PATENTS ONLY**

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

Tab settings ⇌ ⇌ ⇌ ▼ ▼ ▼ ▼ ▼ ▼ ▼

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

TRW Koyo Steering Systems, Co.

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☐ Assignment ☐ Merger  
☐ Security Agreement ☒ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: 10/7/2003

2. Name and address of receiving party(ies)

Name: Tennessee Koyo Steering Systems Co.

Internal Address: \_\_\_\_\_

Street Address: 55 Excellence Way

City: Vonore State: TN Zip: 37885

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s) 2003/0168826

B. Patent No.(s) 5,709,283;  
6,286,382; 6,422,779

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: John M. Johnson, Esq.

Internal Address: Carter Ledyard & Milburn LLP

Street Address: 2 Wall Street

City: New York State: NY Zip: 10005

6. Total number of applications and patents involved: 4

7. Total fee (37 CFR 3.41).....\$ 160.00

☒ Enclosed

☐ Authorized to be charged to deposit account

8. Deposit account number:

RECEIVED

MAR 29 2004

GROUP 3000

DO NOT USE THIS SPACE

9. Signature.

John M. Johnson Reg. No. 33,334

Name of Person Signing

[Signature]  
Signature

October 9, 2003

Date

Total number of pages including cover sheet, attachments, and documents: 4

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231